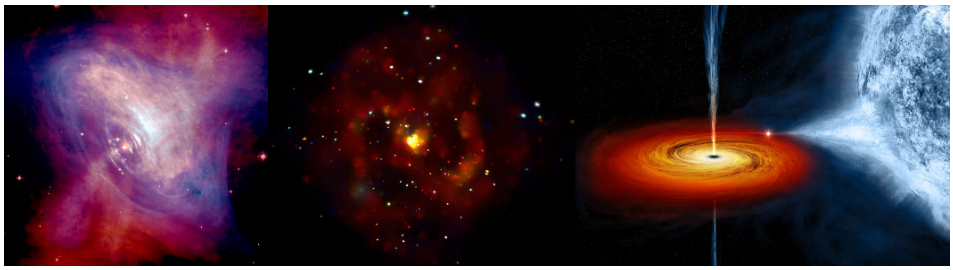

Contribution ID: **55** Type: **not specified**

X-ray Spectral Modelling of some newly identified AGNs from Chandra Source Catalog

Active Galactic Nuclei (AGNs) are one of the most interesting objects in the extragalactic sky. They emit radiation in all wavelength ranging from radio to X-ray and Gamma rays. Through X-ray study we can probe very deep into AGNs because it comes from the vicinity of central Super Massive Black-Holes. Although the inverse compton scattering of the accretion disc's UV/Optical photon by hot electron cloud in corona is well established for the X-ray emission which constitutes a powerlaw in the X-ray spectrum, there are some other processes which contribute to the emission as well (e.g, Soft X-ray Excess, Reflection Hump, High Energy Cutoff etc).

In our current project, we are working with some newly identified AGNs from Chandra Source Catalog version 2.0. These AGNs were identified by Kumaran Shivam and collaborators using machine learning algorithm. We have selected some sources based on certain criteria. Various criteria have been used to remove any selection bias. Spectral modelling has been done for all the sources. Where there are multiple observations for a single source, for each observation spectral modelling has been done individually. Initially all of them were modelled using a single absorbed powerlaw (representing inverse comptonisation) using XSPEC (X-ray Spectral modelling software). In most of the cases the column density parameter could not be estimated which in turn represent an unobscured type AGN. Some cases however significant amount of obscuration has been found. For most of the AGNs only a single absorbed powerlaw suffices the modelling requirement however for some cases more complex model has been needed. Some AGNs needed to have "diskbb"model component representing the black-body emission of the inner portion of the accretion disk which accounts for the soft excess component. For some cases gaussian feature has been added on top of the continuum indicating some line emission.

Such study of large sample of new AGNs will help to repopulate the vast observational ground of them which motivates our theoretical uderstanding of these kinds of objects. Also we are planning to incorporate properties of these AGNs from other waveband of observations because a multiwavelength picture can give a full understanding.

Presentation Type

Poster

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